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Job No.: CTCE/BBMP/W.No.08/KRIDL/SDBC/Stripping/2014-15 17.07.2014

Stripping Value of Road Aggregates (Static Immersion Test)

IS: 6241

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the work	Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/432/2014-15 Dated: 02.06.2014
Type of Mix	Semi Dense Bituminous Concrete
Date of Testing	17.07.2014

Type of binder : 80/100
Percentage of binder used : 5.0% by wt.
Total weight of aggregate : 200 g
Total weight of binder : 10.0 g
Temperature of water-bath : 40° C

Observation Number	Stripping, Percentage	Average, Percentage	Average Retained Coating, %
1	2.6	2.73	97.27
2	2.7		
3	2.9		

Comments:

→ Minimum allowable Aggregate retained coating for Semi Dense Bituminous Concrete is 95%

Note:

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Job No.: CTCE/BBMP/W.No.08/KRIDL/SDBC/AGG/2014-15 17.07.2014

Aggregate Gradation Test

IS : 2386 Part I

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/432/2014-15 Dated: 02.06.2014
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete (SDBC)
Date of Testing	17.07.2014

Total Weight of Sample: **5600** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	458	8.2	8.18	91.82	90-100	
4.75	2865	51.2	59.34	40.66	35-51	
2.36	716	12.8	72.13	27.88	24-39	
1.18	462	8.3	80.38	19.63	15-30	
0.3	357	6.4	86.75	13.25	9-19	
0.075	425	7.6	94.34	5.66	3-8	

Total Weight of Sample: **5550** gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	423	7.6	7.62	92.38	90-100	
4.75	2865	51.6	59.24	40.76	35-51	
2.36	726	13.1	72.32	27.68	24-39	
1.18	483	8.7	81.03	18.97	15-30	
0.3	384	6.9	87.95	12.05	9-19	
0.075	412	7.4	95.37	4.63	3-8	

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Job No.: CTCE/BBMP/W.No.08/KRIDL/QB(SDBC)/2014-15 15.07.2014

TEST REPORT ON DETERMINATION OF BITUMEN CHARACTERISTICS

CLIENT	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.
REFERENCE	:	AEE/KH/432/2014-15 Dated: 02.06.2014
SAMPLE ID	:	Bitumen
DATE OF TESTING	:	15.07.2014

The results of the tests conducted on the bitumen sample.

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	IS :1203 -1978 (RA-2009)	85	80 to 100
2	Softening point, ^{0}C	IS :1205 -1978 (RA-2009)	49	Min. 40
3	Ductility at 27^{0}C, cm	IS :1208 -1978 (RA-2009)	100 >	Min. 75
4	Flash Point, ^{0}C	IS :1209 -1978 (RA-2009)	290	Min. 220

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Job No.: CTCE/BBMP/W.No.08/KRIDL/WMM/AIV/2014-15

18.06.2014

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/432/2014-15 Dated: 02.06.2014
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	18.06.2014

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	383	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	301	
4	Aggregate Impact value = percent fines	21.93	22.02	
	100* (W_2/W_1)%			21.98

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

Note:

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Job No.: CTCE/BBMP/W.No.08/KRIDL/WMM/S-T/2014-15 18.06.2014

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
Agency	**Technical Manager,** KRIDL, Bangalore.
Name of Work	Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.
Reference	AEE/KH/432/2014-15 Dated: 02.06.2014
Technical Reference	IS 2386(Part 1) 1963 (RA 2011)
Type of Mix	Wet Mix Macadam
Date of Testing	18.06.2014

Result : Flakiness Index = **11.65%**

Elongation Index = **13.58%**

Result : Combined Flakiness & Elongation index **25.23%**

Comments:

→ Maximum allowable Flakinee & Elongation Index for Wet Mix Macadam is 30%

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18.06.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.

Reference : AEE/KH/432/2014-15 Dated: 02.06.2014

Date of Testing : 18.06.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **9650**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	340	340	3.5	96.5	95-100
22.4	2215	2555	26.5	73.5	60-80
11.2	1545	4100	42.5	57.5	40-60
4.75	2210	6310	65.4	34.6	25-40
2.36	1235	7545	78.2	21.8	15-30
0.600	1085	8630	89.4	10.6	8-22
0.075	740	9370	97.1	2.9	0-8

Note:

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3. Any Query regarding the report must be reported within 30 days from the date of testing.

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Job No.: CTCE/BBMP/W.No.08/KRIDL/CUBE/2014-15 02.07.2014

TEST REPORT ON CONCRETE CUBES

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of the work : Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.

Reference : AEE/KH/432/2014-15 Dated: 02.06.2014

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{15}

Compressive Strength as on : 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	04.06.2014	02.07.2014	8.123	363.7	16.16
2	04.06.2014	02.07.2014	8.215	394.5	17.53
3	04.06.2014	02.07.2014	8.326	379.6	16.87

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Job No.: CTCE/BBMP/W.No.08/KRIDL/AGG/2014-15 : 03.06.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to roads and drains at Muneshwara Layout in Ward No. 8, BBMP, Bangalore.

Reference : AEE/KH/432/2014-15 Dated: 02.06.2014

Date of Testing : 03.06.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25200**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	948	3.76	3.76	96.24	95-100
20	15894	63.07	66.83	33.17	30-70
10	5126	20.34	87.17	12.83	10-35
4.75	2613	10.37	97.54	2.46	0-5

Note:

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3. Any Query regarding the report must be reported within 15 days from the date of testing.

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